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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,752	09/12/2002	Mohamed Khalil	22171-321	2811

7590 03/17/2006

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EXAMINER	
TRAN, ELLEN C	

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/089,752	KHALIL ET AL.	
	Examiner	Art Unit	
	Ellen C. Tran	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-30 and 70-75* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-30 and 70-75* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication: an original application filed 12 September 2002, with acknowledgement of continuing data from ~~a PCT~~ of PCT/US00/27352 filed 4 October 2000, with a provisional application filed 5 October 1999.

2. Due to preliminary amendment Claims 16-30 and 70-75 are currently pending in this application, claims 1-15, 31-69, and 76-127 have been cancelled. Claims 16 and 70 are independent claims.

Objections

3. The abstract of the disclosure is objected to because: the abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading "Abstract " or "Abstract of the Disclosure". The sheet presenting the abstract may not include other parts of the application or other material. Correction is required. See MPEP § 608.01(b).

4. Claims 16-30 and 70-75 are objected to because of the following informalities: when amending the claims the applicant needs to note the status of each claim and indicate by appropriate marks the changes in the claim. Claim 16 in the amendment is different than the original claim presented the following text is not present "; and transmitting the registration reply from the home domain to the foreign domain and the mobile node". The below rejection assumes this text was not deleted but inadvertently deleted when the amendment was submitted. In addition none of the amended claims indicate a status such as (Original), (Amended), or (New). Appropriate correction is required. See PCT Administrative Instructions Section 205 - Numbering and Identification of Claims Upon Amendment.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 70-75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah et al. U.S. Patent No. 6,400,722 (hereinafter '722) in further view of Cheng et al. U.S. Patent No. 6,418,130 (hereinafter '130).

As to independent claim 70, "A method of providing secure communications between an initiator and a responder in a communications network, comprising:" is taught in '722 col. 5, lines 1-43 (note the initiator is interpreted to be the end users with remote wireless access, the secure communications is interpreted to be the private intranets, the responder is network being communicated to);

the following is not taught in '722: **"dynamically establishing a security association between the initiator and the responder"** however '130 teaches "It is an object of the present invention to provide a technique which improves the performance of a mobile unit (MU) in a wireless LAN or mobile IP environment, particularly during hand-over. The present invention accomplishes this by reusing rather then renegotiating the security associations (SAs) corresponding to the MU once the MU is handed-over. By reusing the SAs, less time is spent negotiating SAs. Consequently, a MU can begin secure communications almost immediately

upon being handed-over from one SU to a another SU" in col. 2, lines 9-17" (note dynamically is interpreted to have the same meaning as immediately).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '722 a mobile communication scheme to include a means to dynamically set Security Assoications (SA) as taught in '130. One in the art would have been motivated to perform such a modification because as indicated by '130 a need exist to improve the SAs so that they do not have to be renegotiated each time a mobile unit moves from one access point to another (see '130 col. 1, lines 61et seq.) "Because the SAs (i.e., the ISAKMP SA and the IP_{SEC} SAs) are bound to the negotiating parties, the SAs are renegotiated whenever a mobile unit moves from one access point to another in a wireless LAN environment, or from one foreign agent to another in a mobile IP context. However, the IKE negotiation process is computationally intensive, particularly phase 1. This is especially troublesome in wireless LAN and mobile IP applications where the mobile unit is frequently undergoing hand-over from one SU to another and where the MU has limited computational power. Under such conditions, overall system performance will be exceptionally low since a significant amount of time must be spent renegotiating SAs rather than communicating".

As to dependent 71, "further comprising: negotiating the security association" is disclosed in '722 col. 26, lines 7-48.

As to dependent 72, "wherein negotiating the security association comprises: negotiating one or more security transforms to be used to provide secure communications between the initiator and the responder" is disclosed in '722 col. 26, lines

23-43 (note the User name and the security parameter index (SPI) is specified in the registration message, the User name and the SPI defines the security associations).

As to dependent 73, "wherein negotiating the security association comprises: proposing the number of transforms to be used to provide secure communications between the initiator and the responder" is taught in '722 col. 26, lines 23-43.

As to dependent 74, "wherein negotiating the security association comprises: proposing the duration of at least a portion of the security association" is shown in '130 col. 6, lines 26-44 (note lifetime is interpreted to have the same meaning as duration) "FIG. 3 illustrates, more specifically, the SA attributes that might be transferred from SU.sub.k to SU_{k+1}, if the partial SA reuse embodiment is employed. As illustrated, SU_k 105, upon receiving a SA request message from SU_{k+1} 110, as indicated by the directional arrow marked "2", sends a reply message 305 to SU_{k+1} 110, wherein the reply message 305 contains the information necessary to define the following ISAKMP SA attributes: the ISAKMP SA lifetime; the ISAKMP session keys, including the ISAKMP session key for authentication and the ISAKMP session key for encryption; keying material, which is required for deriving the IP_{SEC} session keys; the last IKE phase 1 CBC (i.e., cipher block chaining) output block for generating an initialization vector which, in turn, is needed for the encryption of the first IKE phase 2 message".

As to dependent 75, "wherein negotiating the security association comprises: proposing the type of transforms to be used to provide secure communications between the initiator and the responder" is disclosed in '722 col. 26, lines 23-43.

7. **Claims 16-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over '767 in further view of Tisdale et al. U.S. Patent No. 5,708,716 (hereinafter '716).

As to independent claim 16, "A method of providing secure communication between a mobile node and a home domain using a foreign domain comprising:" is taught in '767 col. 4, lines 29-45;

"transmitting a registration request from the mobile node to the home domain the request comprising an identity of a user of the mobile node in encrypted form and network routing information in non-encrypted form" is shown in '767 col. 9, lines 39-48 (note see FIG. 5, which indicates the shaded portion is encrypted);

"the home domain relaying and processing the registration request to generate a registration reply" is disclosed in '767 col. 4, line 63 through col. 5, line 10;

"and transmitting the registration reply from the home domain to the foreign domain and the mobile node" is taught in '767 col. 9, line 40 through col. 10, line 43;
the following is not taught in '767: **"comprising one or more encryption keys for encrypting messages to be communicated between and among the mobile node home"** however '716 teaches "It is another feature and advantage of the satellite communication system to provide a fraud detection and user validation system where keys are not transmitted "over the air" in the clear. It is another feature and advantage of the satellite communication system to provide a fraud detection and user validation system where the keys are changeable at the MET " in col. 7, line 63 through col. 8, line 3.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '767 a mobile communication scheme to include a means to generate a reply that utilizes one or more encryption keys as taught in '716. One in the art would have been motivated to perform such a modification because as indicated by '767 "Here, either this

common key is shared between nodes in advance, or a procedure for key sharing between nodes is carried out when the need arises", in col. 8, lines 13-20. Also as indicated by '716 a need exists for a mobile terminal system where keys can be changed (see '716 col. 7, lines 21 et seq.) "It is also desirable to provide a fraud detection an user validation system where transmitted authorization/validation is variable with each call setup to preclude fraudulent reuse".

As to dependent claim 17, "wherein transmitting a registration request from the mobile node to the home domain comprises: transmitting the registration request from the mobile node to the foreign domain, and transmitting the registration request from the foreign domain to the home domain" is taught in '767 col. 4, line 54 through col. 5, line 9.

As to dependent 18, "wherein transmitting the registration request from the foreign domain to the home domain comprises establishing a secure communications pathway between the foreign domain and the home domain" is shown in '767 col. col. 8, lines 13-19.

As to dependent 19, "wherein transmitting the registration request from the foreign domain to the home domain comprises establishing a secure communications pathway between the foreign domain and the mobile node" is disclosed in '767 col. 8, lines 20-38.

As to dependent 20, "wherein transmitting the registration request from the foreign domain to the home domain comprises establishing a secure communications pathway between the home domain and the mobile node" is taught in '767 col. 8, lines 20-38.

As to dependent 21, "wherein processing the registration request from the mobile node within the home domain comprises decrypting the encrypted form of the identity of the user" is shown in '767 col. 9, lines 10-23.

As to dependent 22, "wherein generating a registration reply comprises encrypting at least one of the encryption keys" is disclosed in '716 col. 11, lines 14-35.

As to dependent 23, "wherein generating a registration reply comprises encrypting the encryption keys for encrypting messages to be communicated between the mobile node and me home domain, and between the mobile node and the foreign domain" is taught in '767 col. 4, line 63 through col. 5, line 10.

As to dependent 24, " further comprising: decrypting one or more of the encrypted encryption keys" is shown in '716 col. 11, lines 10-35.

As to dependent 25, "wherein generating the registration reply comprises: generating a first encryption key for encrypting messages to be communicated between the mobile node and the home domain, generating a second encryption key for encrypting messages to be communicated between the foreign domain and the home domain, and generating a third encryption key for encrypting messages to be communicated between the foreign domain and the mobile node" is disclosed in '716 col. 11, lines 10-35 and '767 col. 8, lines 13-19.

As to dependent 26, "wherein generating the registration reply comprises encrypting at least one of the first an: third encryption keys" is taught in '716 col. 11, lines 10-35.

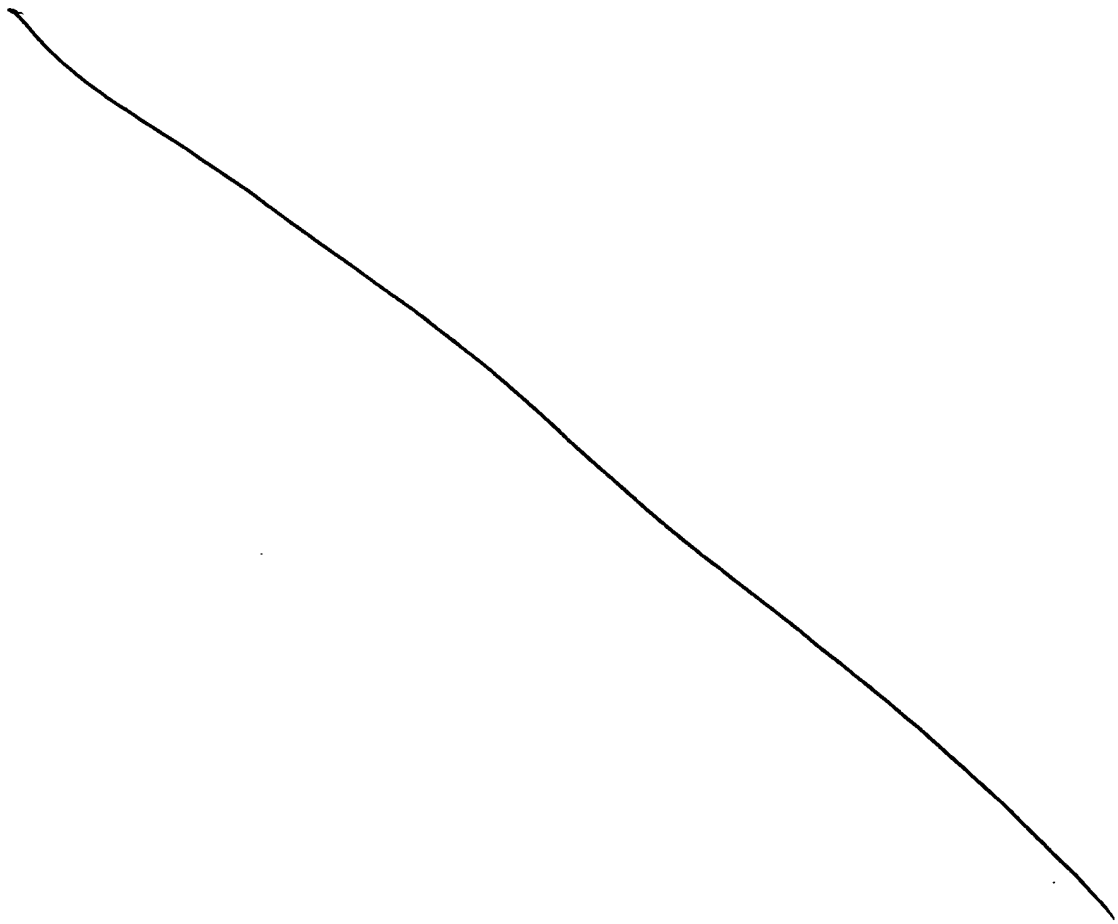
As to dependent 27, "further comprising: decrypting at least one of the encrypted first and third encryption keys" is shown in '716 col. 11, lines 10-35.

As to dependent 28, "wherein the registration reply includes encryption keys that are encrypted" is disclosed in '716 col. 11, lines 10-35;

"and encryption keys that are not encrypted" is taught in '716 col. 9, lines 13-17, '716 col. 19, lines 47-65, as well as '767 col. 9, lines 39-49 (Note although '716 indicates that it does not transmit encryption keys in the clear, the encryption key can be determined from information provided unencrypted in the registration message such as identifiers shown in both '716 and '767, these identifiers are interpreted to be equivalent to encryption keys that are not encrypted)

As to dependent 29, "further including: extracting one or more of the encryption keys that are not encrypted from the registration reply" is disclosed in '767 col. 10, lines 15-43 (Note as shown in FIG. 5 the unshaded portion is not encrypted).

As to dependent 30, "further including: extracting and decrypting one or more of the encryption keys that are encrypted from the registration reply" is taught in '767 col. 10, lines 15-43.



Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 6:00 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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28 February 2006

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